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(54) Title: WATERBORNE COATINGS AND FOAMS AND METHODS OF FORMING THEM

(57) Abstract: Methods of forming epoxy-based foams include reacting at least one sulfonyl hydrazide chemical blowing agent with at least one curing agent at a temperature between 1°C and about 60°C. Illustratively, the curing agent is an emulsion of an adduct of a polyamine. A low density ambient cured, non-exothermic, closed cell epoxy foam may be formed for use as an insulation. This insulation may be fire retardant or fire resistant. The foam may be applied as a liquid material which then foams under ambient temperatures and pressures, or as a panel which has been pre-cast, and delivered in a slab form. Densities as low as 0.24 g/cm<sup>3</sup> (15 lbs./ft<sup>3</sup>) can be achieved at 24°C with compressive strengths approaching 1500 psi.



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